

Scrofula

Laurencia

Charles

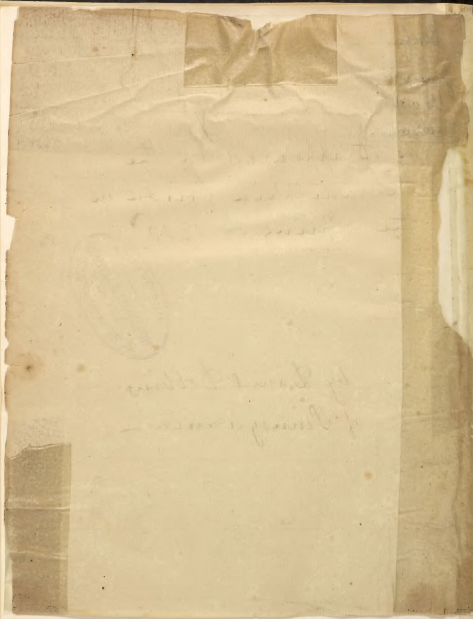
Dobbin

In Scirvy

as it appeared in the
Philadelphia Prison in
the Spring of 1806



by Daniel Dobbin
of Pennsylvania —



I shall first notice some circumstances relative to the internal economy of the Prison, before I proceed to an account of the disease.

A strict attention to cleanliness is enjoined by the rules of the House; the Prison is cleansed out and white washed at least once a month - The clothing of the prisoners is changed regularly once a week.

About fifteen or twenty are confined in a room, they are kept comfortably warm with clothes and fire during the winter, and in the summer the windows are opened to admit fresh air.

The prisoners are locked up every evening at dark, and continue in their rooms till sunrise the next morning.

Their diet consists of three fourths of a pound of Rye bread, well fermented.

The first of these is the fact that the
 second of these is the fact that the
 third of these is the fact that the
 fourth of these is the fact that the
 fifth of these is the fact that the
 sixth of these is the fact that the
 seventh of these is the fact that the
 eighth of these is the fact that the
 ninth of these is the fact that the
 tenth of these is the fact that the
 eleventh of these is the fact that the
 twelfth of these is the fact that the
 thirteenth of these is the fact that the
 fourteenth of these is the fact that the
 fifteenth of these is the fact that the
 sixteenth of these is the fact that the
 seventeenth of these is the fact that the
 eighteenth of these is the fact that the
 nineteenth of these is the fact that the
 twentieth of these is the fact that the
 twenty-first of these is the fact that the
 twenty-second of these is the fact that the
 twenty-third of these is the fact that the
 twenty-fourth of these is the fact that the
 twenty-fifth of these is the fact that the
 twenty-sixth of these is the fact that the
 twenty-seventh of these is the fact that the
 twenty-eighth of these is the fact that the
 twenty-ninth of these is the fact that the
 thirtieth of these is the fact that the
 thirty-first of these is the fact that the
 thirty-second of these is the fact that the
 thirty-third of these is the fact that the
 thirty-fourth of these is the fact that the
 thirty-fifth of these is the fact that the
 thirty-sixth of these is the fact that the
 thirty-seventh of these is the fact that the
 thirty-eighth of these is the fact that the
 thirty-ninth of these is the fact that the
 fortieth of these is the fact that the
 forty-first of these is the fact that the
 forty-second of these is the fact that the
 forty-third of these is the fact that the
 forty-fourth of these is the fact that the
 forty-fifth of these is the fact that the
 forty-sixth of these is the fact that the
 forty-seventh of these is the fact that the
 forty-eighth of these is the fact that the
 forty-ninth of these is the fact that the
 fiftieth of these is the fact that the
 fifty-first of these is the fact that the
 fifty-second of these is the fact that the
 fifty-third of these is the fact that the
 fifty-fourth of these is the fact that the
 fifty-fifth of these is the fact that the
 fifty-sixth of these is the fact that the
 fifty-seventh of these is the fact that the
 fifty-eighth of these is the fact that the
 fifty-ninth of these is the fact that the
 sixtieth of these is the fact that the
 sixty-first of these is the fact that the
 sixty-second of these is the fact that the
 sixty-third of these is the fact that the
 sixty-fourth of these is the fact that the
 sixty-fifth of these is the fact that the
 sixty-sixth of these is the fact that the
 sixty-seventh of these is the fact that the
 sixty-eighth of these is the fact that the
 sixty-ninth of these is the fact that the
 seventieth of these is the fact that the
 seventy-first of these is the fact that the
 seventy-second of these is the fact that the
 seventy-third of these is the fact that the
 seventy-fourth of these is the fact that the
 seventy-fifth of these is the fact that the
 seventy-sixth of these is the fact that the
 seventy-seventh of these is the fact that the
 seventy-eighth of these is the fact that the
 seventy-ninth of these is the fact that the
 eightieth of these is the fact that the
 eighty-first of these is the fact that the
 eighty-second of these is the fact that the
 eighty-third of these is the fact that the
 eighty-fourth of these is the fact that the
 eighty-fifth of these is the fact that the
 eighty-sixth of these is the fact that the
 eighty-seventh of these is the fact that the
 eighty-eighth of these is the fact that the
 eighty-ninth of these is the fact that the
 ninetieth of these is the fact that the
 ninety-first of these is the fact that the
 ninety-second of these is the fact that the
 ninety-third of these is the fact that the
 ninety-fourth of these is the fact that the
 ninety-fifth of these is the fact that the
 ninety-sixth of these is the fact that the
 ninety-seventh of these is the fact that the
 ninety-eighth of these is the fact that the
 ninety-ninth of these is the fact that the
 hundredth of these is the fact that the

and baked, with ² half a gill of Melafes
diluted with a pint of water, for break-
fast - For dinner they have half a
pound of rye bread with half a pound
of fresh meat and beans or peas, or a
soup made of these ingredients, or with
rice - At supper they have Indian mush
with Melafes and water in the same
proportion as for breakfast - In former
years they were allowed potatoes or
turnips, or some fresh vegetables for
dinner; but the extreme scarcity of
these articles during the spring of 1806
and the preceding winter, precluded
the possibility of furnishing them as
articles of diet for the prison - I wish
this circumstance attended to, as it
explains the appearance of the disease

Two sheets of paper were found
in the pocket of the coat. The
first was a letter from the
Governor of the State to the
President of the Senate, dated
the 1st of March, 1845. The
second was a letter from the
President of the Senate to the
Governor, dated the 1st of
March, 1845. The letters were
written in ink, and were
signed by the respective
officers. The letters were
found in the pocket of the
coat, and were taken out
by the witness.

at this time - I should mention that particular attention is paid by the Inspectors and Keepers of the prison to obtain provisions of a good quality

The scurvy made its appearance about the first of May - The first case was in a negro whose breast was affected, he had considerable pain with a difficulty of breathing, which were increased by exercise - From an ignorance of the disease these symptoms were attributed to an effusion of water into the cavity of the Thorax - This prognosis led to Bleet - Blisters and diuretics - Great debility succeeded this practice, which could not be removed by a cordial and tonic plan which was next pursued - This case terminated fatally - Another person who was treated in nearly the same way presented a

similar result - ⁴ The ulceration of the
gums was not attended to - It was suppo-
sed a casual circumstance, that had
no connection with the general complaint
A third person whose legs were affected
with pain and tumefaction was put
on the use of Calomel in form of pulv.
Antimoniale, and afterwards in com-
bination with guaiacum - This case
had like to have terminated in the
same way - fortunately the Mercury
was omitted before a salivation was
produced - A tonic plan was next per-
sued without success - This succession
of disappointments, led to a more atten-
tive examination of every symptom.
It now appeared evident that the
disease was scurvy - This suggested an
alteration in the plan of treatment
the result of which was highly pleasing
as we did not lose another patient

5

The sick were immediately put on the use of a vegetable diet, and the bilious acid; and fresh vegetables were ordered for the prisoners generally - An immediate change now took place; the recoveries were rapid and no new cases occurred - As vegetation had not advanced far, it was difficult to procure salsolids for the whole prison; and now that the disease had ceased their use was discontinued - The Survey in a short time returned - the course was again had to the ~~vegetables~~ with the effect of again banishing the disease - This diet could now be continued, and the prison remained healed ^{thru}

When disease occurs we are naturally led to investigate the cause in order to effect a cure, and more effectually prevent a return - It will be proper that I should consider the different



6

the different causes assigned by authors in order to ascertain whether they existed in the prison, and what agency each had in the production of this disease

Dr Beddoe considers a deficiency of oxygen as the sole cause of Scurvy - He says
"The livid colour of the blood, and the large lived spots which are so often spread over the surface of the body left little room to doubt of the absence of oxygen; and the recovery of the sick by means of acids, and by a vegetable diet, afford a sort of confirmation similar to that which is derived from chemical synthesis, for no substances are better calculated, than acids at least, to impart oxygen to the system; they contain it in abundance, and they part with it easily"



If this theory were correct all substances
that contain oxygen, should cure the
disease and they should do it in pro-
portion to the readiness with which
they part with their oxygen - The
sulphuric and nitric acids should be
the very best remedies - But repeated
experience has proven that they will
not cure a case - This I esteem a
sufficient reason for laying their
use aside, without accounting for
their failure as Dr Beddoes would
wish - Another fact that opposes this
theory is that cures have been effec-
ted without administering acids
and without increasing the quantity
of oxygen - But it will be sufficient
for my purpose to shew that a defici-
ency of oxygen in the present case
is not to be suspected



The prisoners are confined only twelve hours in the twenty four. They are employed at work through the day in the open air - Their rooms are large and ventilated - If the disease was induced by a deficiency of oxygen - it should have constantly appeared in those who were confined in the dungeon where the atmosphere is unchanged, and only sufficient to support the combustion of a lighted taper - a number were confined in this place not one of whom had survy - They were chiefly vagabonds who had not been a long time in Prison

That Miasma had no share in the production of this complaint I infer from the diseases that preceded



7

and accompanied it; they were Catarrh
and other complaints that originate
from the sensible qualities of the
atmosphere - The cleanliness of the
prison forbids us to attribute it to
this cause

Cold alone and in combination
with moisture - They act I suppose
as predisposing causes by inducing
debility - That the disease can exist
without them is proven by its occur-
rence in the tropical climates, and
that it was not the cause in this
case is evident from the season
of the year in which it occurred.
The prisoners are comfortably clad
so as to be protected from the in-
clemency of the weather, if such
had existed



I did not in one case perceive that
hard labour induced Scurvy - This ac-
cords with the observation of Dr Blane.
He thinks it has an opposite effect
He says "a fact mentioned by Capt
Cook may be alleged in favour
of this, He remarks that the Kermascha
dians, who were habituated to hard
labour were free from Scurvy while
the Russians and Bofocks who were
in Garrison in their country and
led indolent lives, were frequently
affected, though they used nearly the
same sort of diet"

Food of an indigestible quality and
containing little nutriment. It may
admit of a doubt whether too much
has not been attributed to this cause
and the circumstance of its being

recent left out of view. In the present case the food is of sufficient easy digestion for laborers. The nourishment it contains has always maintained the prisoners vigorous and capable of performing hard labour. A reason for rejecting this as a cause is that the disease was cured and prevented from returning without increasing the quantity of nourishment, merely by a change in the quality by substituting green vegetables instead of beans peas and rice.

I shall now mention the causes to which the production of this disease is attributed - They are

Debility induced by disease. From the convalescent room there was a number of obstinate cases.

Fear grief and other debilitating passions.



They have been observed strongly to dis-
pose to this disease, it attacks the discon-
tened and refining while those of high
free dispositions escape. This is the only
explanation ^{could} collect for the ^{more} fre-
quent appearance among those confined
for trial. The fact has been frequently
observed that seamen newly im-
ported are particularly liable to become scorbu-
tic.

A diet consisting of animal food or the
dry farinaceous vegetables. This I suspect
to be a more frequent cause than has
been supposed, because it exists in almost
every instance where the disease has
appeared.

And in his excellent book on surgery
speaking of its causes in seamen says
"I come in the next place to an addi-
tional and extremely powerful cause
observed at sea to occasion this disease



and which concurring with the former in progress of time seldom fails to produce it and this is the want of fresh vegetables and greens, either as may be supposed to counteract the bad effects of their before mentioned situation, or rather and more truly to correct the quality of their food and dry food. Experience indeed shows, that as greens and fresh vegetables with ripe fruits are the best remedies for it, so they prove the most effectual preservatives against it; and the difficulty of obtaining them at sea, together with a long continuance in the most sea air are the true cause of its so general and future malignity on that element." This quotation shows the opinion of one whose experience in this



disease was very ample - Altho' he considers cold as the most frequent cause yet a want of recent vegetable matter will seldom fail to induce it.

That a diet such as is used by the prisoners will give rise to scurvy appears from the following facts - Dr Aspinwall found it prevalent in a prison ship where the diet consisted of fresh animal food and beer - Dr Lind relates the cases of two persons who lived on bread ~~on bread~~, dried and salted flesh and sometimes salt beef.

An interesting case is published by Dr Wistar in the 2 Vol. of the Philadelphia Medical and Physical Journal. The subject of this paper had been confined for some time to a Diet of



rice chocolate bread & butter with a
small quantity of animal food. Under
these restrictions scurvy occurred when
there could be no suspicion of any
other cause than a want of rice &
vegetable aliment—

I have already stated that the prison-
ers had lived between three and
four months on animal food and
dry farinaceous vegetables. It is
probable that a very slight alteration
in the diet would have prevented
the appearance of scurvy at this time
altho potatoes or turnips are not adapted
to the cure of this disease, yet they might
prevent its occurrence, for it is more
easy to avoid evil than cure it when
present

The uniformity of the prisoners diet



should be kept in view - Dr Lind remarks that the causes must not only subvert conjointly and exert their influence together in a high degree, but must act likewise together for a considerable time without interruption especially the diet - Change of food has not only a most surprising effect to recover from a very deplorable state of the scurvy, but even the smallest alteration of diet has a wonderful influence in preventing the approach of it

We see the effect of such a diet in the cases already cited; it is reasonable to assign this as the cause in the present case. If we should suspect any other what did it not appear before? There never has been even a solitary case of scurvy in the Prison except in the



Spring of 1800 - besides I am not acquainted with any peculiarity that could have induced the disease that had an existence at this time except the diet

I esteem the following fact of considerable importance - A person had scurvy who had not been confined in the prison for near two months - Now if miasma or a deficiency of oxygen had been the cause this could not have happened. Now who were not imprisoned, and who a few days before had lived on vegetables, would have been as liable to the disease as the oldest prisoner. Particular attention was paid to this circumstance and it was thought at the time to throw considerable light on the cause of the malady -



A circumstance that I formerly mention
 puts the matter beyond a doubt that
 we must refer the origin of the disease
 to this cause - a liberal use of vegeta-
 bles removed the complaint - They
 were omitted for a reason I have
 already mentioned - In a short time
 the fever returned - recourse was
 again had to a vegetable diet with
 the effect of again quickly banishing
 the disease and by persisting in this
 the prison remained healthy

I suspect that the different causes of
 Scurvy assigned by authors as cold
 with moisture &c and as predisposing
 by inducing debility, and that a
 want of recent vegetable aliment
 is none the true remote cause, or the



time you now - This opinion derives weight from the circumstance that scurvy never exists when this cause is not present - The different predisposing causes acting with various force will produce the disease under circumstances very dissimilar.

Barkstrom who wrote in 1734 was of this opinion "He says other causes may occur but recent vegetables are alone found sufficient to preserve the body free from this malady" He details a number of cases where the disease existed under these circumstances, and was always removed when this cause ceased to exist.

I shall say a few words on the symptoms and cure



20
The first symptom that presents itself is a change of the natural colour of the face to a pale yellow or dingy appearance - altho this is not observed in every case to precede other symptoms yet it is constant and invariable.

The countenance has a sullen and morose appearance. From this circumstance probably arose the opinion held by the ancients that Pursey was men-
ing a higher grade of Melancholia.

There is early observed a lazinez and aversion to motion, which soon degenerates into a troublesome apathy - a pain is felt in the muscles and bones and the least motion fatigues, with this peculiarity that no refreshment is obtained from sleep.



~ ~
Their gums soon become itchy swell
and bleed by the slightest friction. They
are livid spongy and fungous.

The skin was not increased in
temperature, it felt dry and rough
presenting an unsavory appearance.
Spots of a dark colour were very
numerous. These were different
from the large blotches or ecchy-
moses that appeared chiefly on
the lower extremities.

A number had swelled legs this
in some was similar to edema
while in others it was so hard
that it would to no purpose. The
flexor muscles of the leg become
contracted. Dr Lind found by
dissection that this was owing



is an extravasation of blood between the muscular fibres and in the interstices of the muscles. A swelling in almost every case occurred in the loins this was hard and incompressible.

Pains in the breast were frequently observed, they were increased by coughing and exercise of any kind. The extreme oppression & Dyspnea that occurred in one case caused it to be mistaken for Angerthorax.

In two cases ulceration took place one was in an habitual drunkard who formerly had sore legs. They ~~formerly~~^{now} broke out with foul and very fungous ulcers. The other had the

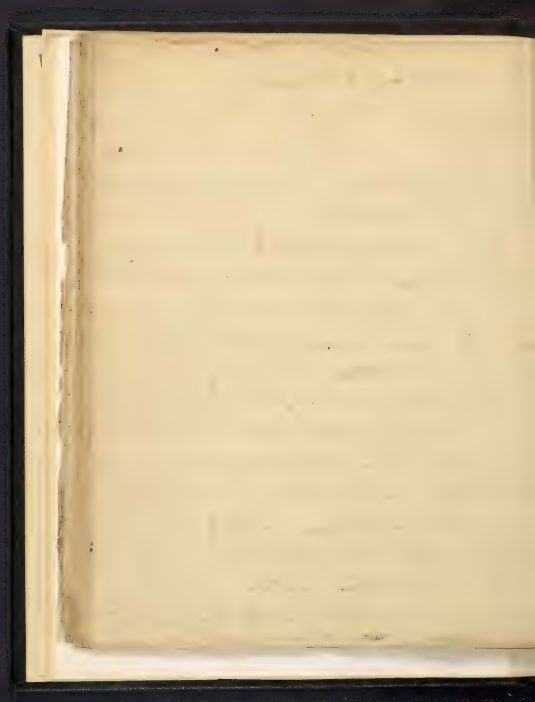


the preceding autumn received an injury on his knee - They were treated successfully by mild applications and the general remedies for surgery

The pulse did not in any case show tension, it was in general small weak and slow —

The cure was almost entirely trusted ~~trusted~~ to a vegetable diet, with lemons; this never failed in a few days of relieving the patient - The swelled and indurated legs were not immediately cured; fomentions with flannel were applied with advantage

Raw potatoes grated down and made palatable with spices and vinegar were of eminent service.



Particular attention should be paid to exercise, Scorbutic patients are so averse to this, that authority must be interposed to enforce this salutary prescription - The berries in Lapland that cure this disease, are said to lose half their virtue unless collected by the patient himself

As several remedies were tried before the complaint was known, I shall first mention the result of a few of them - Bleet - manifestly did harm - Local Bloodletting with the scarificator was attended with no better success, it was succeeded by swelling and ulceration that was difficult to heal - Blisters did serious mischief, they always failed

in relieving the pain for which they were applied, and the sores which they left behind were with difficulty prevented from running into Gangrene

Lime juice ~~which~~ was at first procured in bottles as imported from the West Indies. This was found far inferior to the fresh limes -

Bark, Eliq Vit, and the Citric acid had no impression on the disease - Dr Lind relates a case that occurred under the use of Eliq. Vit. His experience convinces him that it will not prevent or cure Scurvy

